

# **Collaborating in Complex Adaptive Systems: The DNP Improving Care Management Outcomes**

## **Second National Annual Nursing Practice Conference: Defining Ourselves**

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### **Objectives**

- **Describe the Continuum of Care Management**
- **Describe the role of the DNP within a Complex Adaptive System (CAS)**
- **Describe the opportunities of the DNP in improving care management outcomes (LOS, IOI, CMI)**



## Where it all started...

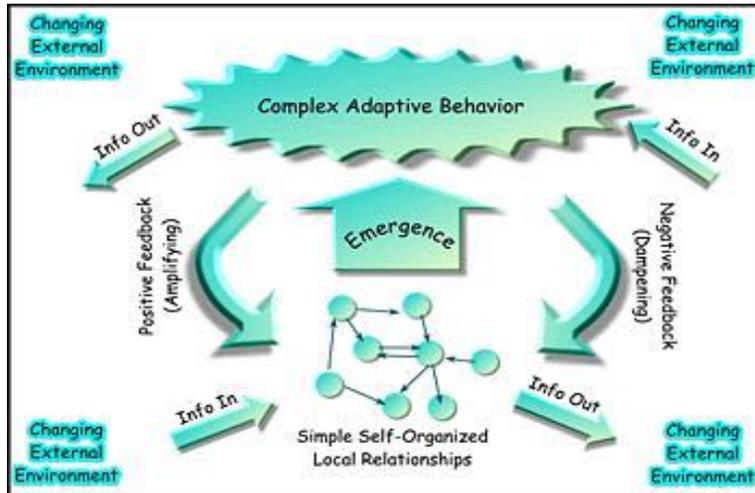
“It may seem a strange principle to enunciate as the very first requirement in a hospital that it should do the sick no harm” (Florence Nightingale, 1859)



## Continuum of Care Management

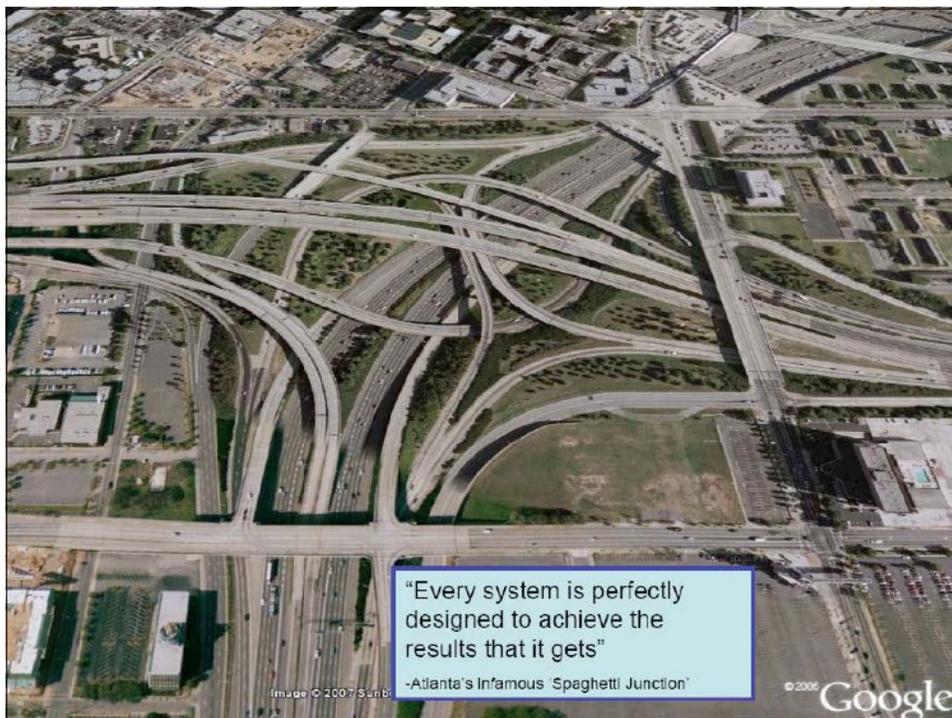
- Care Management Programs
  - Apply systems, science, incentives and information to improve medical practice
  - Assist consumers and their support system to become engaged in a collaborative process to manage medical/social/mental health conditions more effectively
  - Goal is to achieve an optimal level of wellness and improve coordination of care while providing cost effective, non-duplicative services (Mechanic, 2007)

## Complex Adaptive Systems



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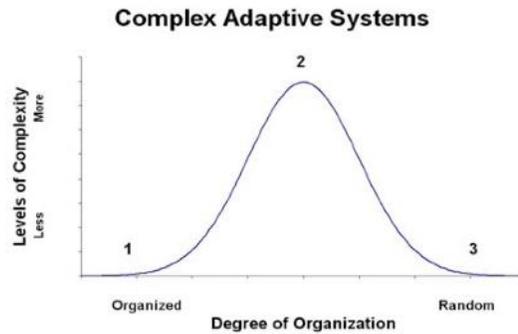
## Comparison of Organizational System Characteristics

<b>Complex Adaptive Systems</b>	<b>Traditional Systems</b>
Living organisms	Machines
Unpredictable	Controlling and predictable
Are adaptable, flexible, creative	Rigid, self-preserving
Tap creativity	Control behavior
Embrace complexity	Find comfort in control
Evolve continuously	Recycle

## Complex Adaptive Systems

- Order flows from interactions not from central control
- Naturally adaptive and creative
- Whole is greater than sum of parts
- When interactions between agents are enhanced, adaptability and creativity are enhanced
- Small changes can produce big effects  
(Plexus Institute, 2003)

## Complex Adaptive Systems



**The DNP understands the complexity of the systems that exist and provides the organized consistency that is essential for sustained compliance**

## DNP Role Relative to a Complex Adaptive System

- **Essential II: Organizational and Systems Leadership for Quality Improvement and Systems Thinking**
  - Ensure accountability for quality of health care and patient safety
  - Uses advanced communication skills/processes to lead quality improvement and patient safety initiatives

## DNP Role Relative to a Complex Adaptive System

- Essential III: Clinical scholarship and analytical methods for evidence-based practice
  - Use analytic methods to critically appraise evidence to determine and implement the best
  - Design and implement processes to evaluate outcomes
  - Design, direct, and evaluate quality improvement methodologies to promote safe, timely, effective, efficient, equitable, and patient-centered care
  - Disseminate findings to improve health care outcomes. (AACN, 2006)



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## DNP Role Relative to a Complex Adaptive System

- Essential VI: Interprofessional collaboration for improving patient and population health outcomes
  - Employ effective communication and collaborative skills
  - Lead interprofessional teams in the analysis of complex practice and organizational issues
  - Employ consultative and leadership skills with intra/interprofessional teams to create change in complex health care delivery systems (AACN, 2006)



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## Talk about throughput issues!



## Case Management

- “Case management leadership is grounded in integration with all of the healthcare practitioners... Through collaboration and coordination, case managers are in a unique position to direct and streamline complex care processes”

Shuetze & Cunningham, 2007

## Comparative Leadership Goals

- **The JC Leadership Goals**
  - Is inclusive not exclusive
  - Encourages staff participation in shaping the hospital's vision, and values
  - Develops leaders at every level who help fulfill the hospital's mission, vision and values
  - Accurately assesses the needs of patients and other users of the hospital's services
  - Develops an organizational culture that continuously focuses upon continuously improving performance to meet those identified needs
  - Develops, mentors, and educates all staff, patients, families and communities (Joint Commission, 2009)
- **Case Management Society of America**
  - Case managers are part of a team and work collaboratively with the patient/family, the physician, providers of healthcare, the payer, and others to develop and implement a plan that meets the patient individual's needs and goals
  - Case managers coordinate the efforts of the multidisciplinary team to facilitate efficacious care delivery
  - Case managers are both formal and informal leaders, whose practice efforts utilize advocacy, coordination, and facilitation to ensure the delivery of quality, cost-effective, patient centered care
  - Case managers use an evidence-based approach to ensure continuous improvement of patient-directed care initiatives
  - Develops, mentors, and educates all staff, patients, families, and communities (CMSA, 2002)



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## Length of Stay (LOS)

- Is a term commonly used to measure the duration of a single episode of hospitalization.
  - Inpatient days are calculated by subtracting day of admission from day of discharge. However, persons entering and leaving a hospital on the same day have a length of stay of one.
  - A popular statistic associated with length of stay is the **average length of stay (ALOS)**, calculated by dividing the sum of inpatient days by the number of patients admitted with the same DRG classification.



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WE'RE DISCHARGING HIM  
TODAY. THE INSURANCE  
COMPANY SAID HE SHOULD  
BE WELL BY NOW.



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## Case Mix Index (CMI)

- Average diagnostic related group (DRG) weight for all of the hospital's Medicare volume.
  - Used to adjust the average cost per patient (or day) relative to the adjusted cost for other hospitals by dividing the average cost per patient (or day) by the hospital's calculated CMI.
  - If a hospital has a CMI greater than 1.0, their adjusted cost per patient or per day will be lowered.



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## How is the Opportunity Index (OI)/Inlier Opportunity Index (IOI) Calculated?

$(\text{Days} > \text{GMLOS}) - (\text{Days} < \text{GMLOS}) + \text{Outlier Days} = \text{Net Days}$

$$\frac{\text{Net Days}}{\text{Medicare Cases}} = \text{Opportunity Index}$$

$(\text{Inlier Days} > \text{GMLOS}) - (\text{Inlier Days} < \text{GMLOS}) = \text{Net Inlier Days}$

$$\frac{\text{Net Inlier Days}}{\text{Medicare Inlier Cases}} = \text{Inlier Opportunity Index}$$

## DNP Related to Continuum of Care Management

- Multiple opportunities for DNPs
  - Facilitate formation of effective teams with clear aims and measurable outcomes
  - Ensure data and evidence-based literature is available to facilitate discussions to increase implementation of new innovations
  - Create environment of quality and patient safety
  - Create environment of transparency

## DNP Role in Sustainability of Gains

- Understanding of Complex Adaptive Systems enables DNP to act in proactive manner
- Intimate knowledge of cost/benefit data enables DNP to request resources to ensure sustainability of gains



## Conclusion

- DNP education provides the advance practice nurse with additional tools by which an effective and predictable program can be developed to ensure consistent compliance with the hospital quality measures
- Ideas generated by new research findings or team members can be best infused into the organization by DNP
- DNPs are the future of nursing

## References

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- Mechanic, R. (2007) Will Care Management Improve the Value of US Health Care? Retrieved from <http://sihp.brandeis.edu/council/pubs/Princeton%20XI/Rob%20Mechanic%20paper.pdf>
- Plexus Institute (2003). *Applying Complexity Science to Health and Healthcare*, retrieved August 8, 2009 from <http://www.hpm.umn.edu/research/centerline/11261.pdf>
- Shuetze, K., & Cunningham, B. (2007). The case manager connection: Taking a leadership role to improve patient outcomes. *Nurse Leader*, 5(1), 48-50.

- Questions?

